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Energy Emergency Management: Preparedness, Prevention, Response and Recovery

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Emergency management is a critical function prior to, during and following an energy emergency. When an emergency occurs, it is imperative that local and state agencies follow a coordinated process to ensure prompt recovery. This brief examines an energy emergency and describes the steps taken following the situation, including who was involved and what actions occurred.

A huge blast rocks a small town—an oil refinery explosion. The blaze shoots trails of smoke into the air. The refinery normally operates with more than 1,800 people inside. Local fire crews and medical services are called to the scene.

In the event of an energy emergency—for example, a refinery explosion—local responders (firefighters, police and medical services) and citizens are usually the first on the scene. The local government then follows a defined set of procedures to lessen the effects of the emergency. The state and federal governments play a role if the disaster is extensive enough that local responders require assistance.

Each locality and state has an emergency action plan to follow during emergencies. The National Response Plan, developed by the Department of Homeland Security and the Federal Emergency Management Agency, allows states to standardize emergency plans. The National Response Plan offers a framework for all states to follow as they develop of emergency response plans.

The National Response Plan focuses as much on preventing an incident as on recovering from an incident, since prevention and preparedness often economically outweigh post-incident recovery efforts. The disciplines covered in the National Response Plan include emergency management, law enforcement, firefighting, public works, public health, responder and recovery worker health and safety, emergency medical services, public safety communications, homeland security and the private sector. The plan unifies the nation's response to emergencies.

Within the National Response Plan are the Emergency Support Function Annexes. The Energy Annex is intended to restore damaged energy systems and components during a possible or actual incident of national significance. In the plan, "Energy" includes producing, refining, transporting, generating, transmitting, conserving, building, and maintaining energy systems and system components.[1] The National Response Plan specifies 17 sector annexes (communications, transportation, energy, firefighting). Each state designates lead and support agencies in their state emergency plan according to each of the sectors.

Local government notifies the state emergency management agency of the emergency and provides an assessment (e.g., number of fires at the location, number of people inside the affected building, whether hazardous materials [HAZMAT] officials are on the scene). An incident manager—in this case, the fire battalion chief—provides that update. Thirty minutes to an hour later, the fire battalion chief provides another update to the emergency management agency. Local residents are told to stay indoors to avoid possible exposure to chemicals. More than 400,000 barrels of crude oil are processed daily at this facility—approximately 3 percent of the U.S. supply. Gasoline prices could be affected.

The state emergency management agency is responsible for the state's comprehensive emergency management program. The agency is concerned with disasters such as flooding, tornadoes, wildfire, hazardous materials incidents and acts of terrorism. In each state, the emergency management agency supports local and state agencies by coordinating emergency preparation and response.

The state emergency management agency supports the governor by preparing for and responding to emergencies through conducting emergency training exercises; coordinating state emergency resources, such as people and equipment; providing financial and technical assistance to local government; maintaining communications throughout the state; and updating state emergency plans.

The emergency management function involves four categories—preparedness, prevention, response and recovery. The emergency management agency might facilitate preparedness by circulating the emergency plan and holding emergency training exercises across the state to identify threats and required resources. Prevention might include improved surveillance at critical state facilities. Response refers to the procedures and policies followed to address the direct effects of an emergency. Recovery efforts allow communities to restore a sense of normalcy by way of site and service restoration plans.

Fire crews work to contain the fires. There are numerous injuries and possibly some deaths; at this time, the injury/death count is unknown. The state officially activates the Emergency Operations Center (EOC). The lead and support agencies whose sectors might be affected by the blast are called to go to the EOC. In this event, those lead and support agencies include public safety, health, energy, criminal justice, environmental quality and transportation.

During an emergency, state, federal and local agency representatives come together to coordinate the state response in one location—an Emergency Operations Center (EOC). The EOC generally is situated in a central location in the state. EOCs normally have different levels of activation, depending on the extent of the emergency; the levels of activation are monitoring, partial activation and full activation.

Each state agency designates people from the agency to serve as trained emergency response coordinators when the EOC is activated. Electric and gas utilities also designate response coordinators to the EOC. EOCs house numerous work stations—each with a computer, internet access, and telephone—for all department emergency response coordinators from state agencies and for federal and local partners.

The National Incident Management System (NIMS) requires the EOC to follow certain criteria. NIMS, developed by the Department of Homeland Security, ensures that responders at all levels will work effectively to respond to domestic emergencies. To meet the NIMS criteria, the Colorado EOC includes a policy room, a secure video teleconference room, a 2,400 square foot operations/coordination room, a communications center and a room designed for media.[2]

Backup power and communication systems enhance operations and allow the EOC to operate should there be a power loss. Training and meetings take place at the EOC when it is not in use for an emergency. The emergency management agency usually maintains the EOC.

Soon thereafter, the emergency operations center notifies the Federal Emergency Management Agency (FEMA) Regional Response and Coordination Center. FEMA will notify regional and federal emergency contacts. The emergency operations center notifies the governor. Depending on the severity of the event, the governor may declare a state of emergency or disaster.

FEMA, as part of the Department of Homeland Security (DHS) since 2003, leads the United States in preparing for, preventing, responding to and recovering from disasters. Ten regional offices across the country serve states regionally in preparation and response activities through Regional Response and Coordination Centers.

In the event of an emergency, the governor has the authority to declare a state of emergency or disaster, if necessary. This emergency declaration grants the governor certain authorities, including National Guard deployment, evacuation requirements and emergency funding support. In an emergency, the state emergency management agency often will serve as a representative of the governor, managing federal aid and providing assistance to affected jurisdictions.

The Colorado EOC features more than thirty workstations or each department's emergency response coordinator.

The state emergency operations center alerts corresponding agencies in the surrounding states in case of widespread aftereffects. The Department of Homeland Security and the Federal Bureau of Investigation (FBI) are notified.

The FBI's involvement escalates if there is any indication of terrorist involvement. The local government may contact the FBI directly, depending on the size of the jurisdiction (urban versus rural).

One and one-half to two hours after the emergency, the emergency management agency may receive a request from the local government for state assistance. Local government and surrounding jurisdictions warrant this assistance once resources are exhausted or large-scale consequences from the event are possible. The emergency management agency should know the availability of the local system's emergency equipment so the agency can determine the level of need in the jurisdiction.

Presently, FEMA is completing a formal typing system for standardizing emergency equipment labels and definitions. The typing system will ensure that the identification system is equivalent in all jurisdictions. This will provide a better understanding of exactly what equipment or resources a jurisdiction might require and what nearby jurisdiction might be able to fulfill that requirement.

After two hours, the fire is extinguished. The explosion did not cause any fatalities, but fifty employees were injured. The exact cause is unknown at this time, but terrorism is ruled out. The emergency operations center remains activated to monitor the situation and provide additional status reports as necessary.

Recovery from an emergency includes the short- and long-term actions taken to restore vital systems to minimum standards and regain a sense of normalcy in the affected communities. Recovery efforts might include damage assessments, financial assistance appraisals, public assistance programs and economic impact studies.

Post-emergency evaluation might be statewide or specific to each agency. Assessments of the control and process of the situation normally are required as part of a state emergency plan. A detailed analysis of the emergency, including the actions taken and the success of those actions, should be shared with all entities involved in the emergency. This could occur during an energy emergency exercise and would allow for adjustments to the emergency plan that might improve the future preparation and response.

Notes

1. Federal Emergency Management Agency (FEMA), Emergency Support Function #12 Energy Annex, http://www.au.af.mil/au/awc/awcgate/frp/frpesf12.htm, 1999.
2. Federal Emergency Management Agency, *EOC Assessment Checklist*, http://www.fema.gov/doc/onp/eocchecklist.doc, 2004.

Resources

National Emergency Management Association, *If Disaster Strikes Today: A Governor's Primer on All-Hazards Emergency Management*, www.nemaweb.org, 2004.

Colorado Division of Emergency Management
http://www.dola.state.co.us/oem/oemindex.htm

Federal Emergency Management Agency (FEMA)
www.fema.gov

FEMA Emergency Management Institute
http://training.fema.gov/EMIWeb/IS/

Homeland Security Exercise and Evaluation Program (HSEEP)
http://www.ojp.usdoj.gov/odp/exercises.htm#hseep

State Emergency Management Agencies
http://egov.oregon.gov/OOHS/OEM/st_emerg_man_agenc.shtml

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